Released Muliple Choice Items
Grade 8 Reading and Math

2004 Montana Criterion-Referenced Test

General Directions

This test contains six sessions: three in reading and three in mathematics. The sessions are made up of multiple-choice questions and questions for which you must show your work or write out your answers. Write your answers to all of the questions in your Student Response Booklet. Do not write in this test booklet. For the reading parts of the test, read each selection before answering the questions.

For each multiple-choice question, choose the best answer. Fill in the bubble in your Student Response Booklet that corresponds to your answer choice for that question.

Some questions ask you to show your work or to write out your answers. Write your answers to these questions in the spaces provided in your Student Response Booklet. Your answers must fit in the spaces provided. Any part of an answer outside the box might not be scored.

Be sure to answer all parts of each question, and to answer completely. For example, if a question asks you to explain your reasoning or show your work, be sure to do so. You can receive points for a partially correct answer, so try to answer every question.

Reading
Session 1

This test session includes reading selections, multiple-choice questions, and a question for which you must write out your answer. After you read each selection, answer the questions about it in the spaces provided in your Student Response Booklet. You may not use a dictionary or any other reference tool during this session.

Read this poem about playing baseball and then answer the questions that follow.

How to Play Night Baseball

A pasture is best, freshly
mown so that by the time a grounder's
plowed through all that chewed, spit-out
grass to reach you, the ball
will be bruised with green kisses. Start
in the evening. Come
with a bad sunburn and smelling of chlorine,
water still crackling in your ears.
Play until the ball is khaki—
a movable piece of the twilight—
the girls' bare arms in the bleachers are pale,
and heat lightning jumps in the west. Play
until you can only see pop-ups,
and routine grounders get lost in
the sweet grass for extra bases.

—Jonathan Holden

Mark your answers to questions 1 through 5 in the section marked "Reading—Session 1" in your Student Response Booklet.

ID:177021 How to Play Nig B

1. In line 5, the ball "will be bruised with green kisses" means the ball will

   A. be dented by the bat.

   B. become grass-stained.

   C. hit and hurt someone.

   D. be thrown hard by the pitcher.

ID:177022 How to Play Nig B

2. What does the speaker suggest you do before playing baseball?

   A. Rake the field.

   B. Go swimming in a pool.

   C. Plow the pasture.

   D. Practice playing the game.

ID:177030 How to Play Nig D

3. This poem is **mostly** about

   A. a day spent playing baseball.

   B. trying hard to win a baseball game.

   C. the official rules of baseball.

   D. the pleasure of playing baseball.

ID:177029 How to Play Nig A

4. What is the tone of the poem?

   A. carefree

   B. intense

   C. regretful

   D. uneasy

ID:177026 How to Play Nig C

5. "How to Play Night Baseball" is classified as poetry rather than prose because it

   A. tells a story.

   B. is written in the third person.

   C. is written in verse form.

   D. uses short, simple words.

Have you ever wanted to write a letter to the editor? Read the article and then answer the questions that follow.

How to Write a Letter to the Editor

Is there something that you feel strongly about? Is there something that you think other people should know? There is a way to make your ideas reach hundreds of people, possibly even thousands. Letters to the editors of school, local, or national newspapers and magazines are an effective and fun way to get your point across. Often, people who work for newspapers and magazines will publish a letter to the editor if they think it will appeal to their audience and if, of course, it is well written.

Here are eight tips for writing a letter to the editor that will enhance your chances of getting published.

1. **Look in the magazine or newspaper you plan to write to for any printed guidelines.** For example, a magazine may ask you to double-space your letter in order to edit it more easily. Guidelines often appear at the end of the Letters column. If they're not there, you can call the newspaper on the phone to ask for special instructions.

2. **Include your name and address and be sure to sign your letter.** Most newspapers and magazines won't print anonymous letters; however, some will keep your name out of print if you ask them.

3. **Use an appropriate salutation and closing in your letter.**
   Begin your letter like this:
   To the Editor:

   And end it like this:
   Sincerely,
   (Your signature)
   (Your name typed or printed)
   (Your grade, school, or organization)

4. **Make sure that your letter is brief and clear.** Come right to the point and don't repeat yourself. Editors aren't impressed with long-winded letters. In fact, letters are often shortened to fit the space available in the newspaper or magazine. Don't be surprised or upset if this happens to your letter.

5. **Write timely letters.** Your subject matter should be something that is of current interest to the readership of the publication.

6. **Support your solution.** If you're writing because you think something should be done, give a few short reasons why.

7. **Don't send the same letter to more than one newspaper.** You probably wouldn't appreciate receiving a form letter from a friend. Newspapers like original work, too.

8. **Proofread your letter for mistakes before sending it.** But don't worry; your letter doesn't have to be perfect. The editor will make any needed corrections.

Please go on to the next page.

Here's a sample letter to the editor:

12 Main Street
Springfield, Iowa

(today's date)

Mid-Town News
P.O. Box 126
Springfield, Iowa

To the Editor:

I am writing to give my opinion of the plan to build a shopping mall in downtown Springfield. I think you should build the new mall, but I also think you should create a park on a portion of the land.

When I go downtown, I feel surrounded by concrete. A park would beautify the area around your mall, and that could attract even more shoppers.

Also, devoting some of your land to a park would be a nice gesture. It would be like extending your hand in friendship to the community—a community that could support a number of new businesses.

Including a park in your development plans would make everyone—business owners, shoppers, and even our beautiful plants and animals—a little bit happier.

Sincerely,

Justin Jones

Justin Jones
Grade 8

Mark your answers to questions 6 through 10 in the section marked "Reading—Session 1" in your Student Response Booklet.

ID:177111 How to Write a B

6. According to the article, what is the **first** step in writing a letter to the editor?

   A. Proofread the letter.
   B. Look for guidelines.
   C. Support a solution.
   D. Be brief and clear.

ID:177110 How to Write a D

7. In tip 2, what does <u>anonymous</u> mean?

   A. long-winded
   B. lacking support
   C. out-of-date
   D. lacking a name

ID:181010 How to Write a A

8. According to the article, what should you do to improve your chances of getting your letter published?

   A. Write a short and clear message.

   B. Express a lot of opinions.

   C. Contact many different newspapers.

   D. Borrow other people's ideas.

ID:177106 How to Write a B

9. Which statement is a fact rather than an opinion?

   A. "Come right to the point and don't repeat yourself."

   B. "Guidelines often appear at the end of the Letters column."

   C. "You probably wouldn't appreciate receiving a form letter from a friend."

   D. "I also think you should create a park on a portion of the land."

ID:177103 How to Write a C

10. Who would benefit **most** from reading this article?

    A. magazine editors

    B. English teachers

    C. concerned citizens

    D. newspaper reporters

Read this story about Donna and Joanna and then answer the questions that follow.

On the Boardwalk[1]

Carol Hammond

Donna walked the boardwalk alone most nights during the summer. On hot nights like this, with the air heavy like a blanket, she walked slowly, feeling each board under her feet. She listened to the sound of waves lapping at the shore and the music from the bandstand. She watched as the Ferris wheel[2] lifted children and parents off the ground in a swirling circle of light.

Donna liked these evenings, when the sky seemed to stretch on forever and the stars hung like tiny, twinkling pieces of glass. Suddenly, Donna saw her. Joanna Miller was standing on the other side
2 of the boardwalk with her friends, leaning against a post, eating ice cream. She seemed so much more mature than Donna. Her clothes, a purple knit top and shorts, were the same ones Donna had seen on a mannequin in a shop window last week.

Joanna Miller's father was in charge of a big office downtown. "Just because Joanna gets a lot of fancy clothes doesn't mean you need them" is what
3 Donna's father had said when Donna mentioned at dinner that Joanna Miller had shown up at school wearing the exact sneakers Donna had wanted. "Clothes do not," he said, "make the person."

Donna's father didn't understand. It wasn't just the clothes. It was the fact that Joanna Miller thought she was too cool for Donna. She never talked to her. She never even noticed her in the hallway at school or in the courtyard during lunch. She acted like she didn't exist. If Donna could show up at school in those sneakers or, better yet, something Joanna didn't have, it would show Joanna Miller that she wasn't the only one with style.

"She thinks she is better than I am," thought Donna as she watched Joanna from across the way, her hair tucked gently behind her ears, one hand lifting a spoonful of ice cream to her mouth. Donna imagined that Joanna was telling her friends about all the things she had bought that day that were sitting in the brightly colored bags at her feet. Donna imagined that Joanna Miller was saying nasty things about her and that every time she laughed it was about her. That's when Joanna Miller looked up and saw Donna staring. She stood still with the spoon in her mouth and her eyes fixed on Donna's. Joanna's friends, all at once, turned to look at Donna, too.

Donna moved her eyes quickly to her feet, which she suddenly noticed were in tattered sandals, with bits of dried, salty sand stuck to her toes. She felt hot and started to breathe faster. Joanna Miller had caught her in full stare. There was nothing she could do now but walk over there and say hello. Her feet began to move slowly, almost against her will, to the other side of the boardwalk until she was standing face to face with Joanna Miller and her three friends. It was dead quiet.

"Hi," Donna said and swallowed hard.

Joanna Miller didn't grimace or frown or toss that perfect hair of hers over her shoulder. She didn't snicker or sigh or roll her eyes. She didn't do any of the things Donna had imagined that
had for so long kept her from approaching Joanna 8
Miller. All she did was put her spoon back into her ice cream and smile. Then she said "Hi" back. Her voice was soft and nice, not snippy or mean at all.

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[1] boardwalk: a walkway along a beach

[2] Ferris wheel: an amusement park ride consisting of a large upright wheel with seats

9 Joanna's friends moved off into their own little circle and Joanna said; "You're Donna Holmes, right?" Donna nodded. "You have the best hair," she said. "I bet everyone tells you that." Donna's mouth fell open and she laughed. Joanna Miller was complimenting her on her straight, brown, boring hair. "I've always wanted straight hair," she said.

Donna could see Joanna's friends staring over in shock at her and Joanna. Joanna called them over and they came across to join them. Donna felt the hot, sticky air give way to a cool offshore breeze. It was a breath of fresh air for all of them.

Mark your answers to questions 11 through 21 in the section marked "Reading—Session 1" in your Student Response Booklet.

ID:177138 On the Boardwal D

11. The **main** purpose of the first paragraph is to describe the
    - A. plot.
    - B. characters.
    - C. conflict.
    - D. setting.

ID:177143 On the Boardwal C

12. Why did Donna think Joanna would be unfriendly?
    - A. Joanna laughed at her.
    - B. Joanna criticized her clothes.
    - C. Joanna ignored her.
    - D. Joanna whispered about her.

ID:184559 On the Boardwal C

13. Why did Donna finally approach Joanna?
    - A. She was tired of being afraid of Joanna.
    - B. She felt bad for misjudging Joanna.
    - C. She thought not to would be awkward.
    - D. She could not believe what she saw.

ID:177128 On the Boardwal A

14. In paragraph 8 the author writes, "Joanna Miller didn't grimace or frown." The word grimace means
    - A. make an unhappy face.
    - B. roll the eyes.
    - C. laugh at and insult.
    - D. turn one's back.

ID:177129 On the Boardwal D

15. In the last paragraph, the author implies that Joanna's friends
    - A. laughed at how Donna looked.
    - B. walked away from Joanna and Donna.
    - C. complimented Donna on how she looked.
    - D. changed their attitude toward Donna.

ID:177146 On the Boardwal D

16. In the last paragraph, the cool breeze **most likely** symbolizes
    - A. true friendships.
    - B. good memories.
    - C. happy childhoods.
    - D. new beginnings.

ID:177145 On the Boardwal C

17. Which word **best** describes Joanna at the end of the story?

A. courageous
B. mean
C. friendly
D. snobby

ID:177132 On the Boardwal B

18. At the end of the story, Donna **most likely** feels

A. confused.
B. relieved.
C. hurt.
D. grateful.

ID:180994 On the Boardwal B

19. Which paragraph describes events out of chronological order?

A. paragraph 2
B. paragraph 3
C. paragraph 8
D. paragraph 9

ID:177147 On the Boardwal A

20. This story is written from the point of view of

A. Donna.
B. Donna's father.
C. Joanna.
D. Joanna's father.

ID:177133 On the Boardwal A

21. The **main** purpose of this story is to

A. entertain.
B. instruct.
C. persuade.
D. inform.

Write your answer to question 22 in the space provided for it in your Student Response Booklet.

ID:177148 On the Boardwal

22. What lesson does Donna learn in this story? Explain your answer, using information from the story as support.

Please STOP. Do not go on to the next page.

Reading
Session 2

This test session includes reading selections, multiple-choice questions, and a question for which you must write out your answer. After you read each selection, answer the questions about it in the spaces provided in your Student Response Booklet. You may not use a dictionary or any other reference tool during this session.

This selection is a legend about the Blackfoot Nation. Read the legend and then answer the questions that follow.

Two Medicine Lake, Glacier Park
MONTANA

THE BUFFALO no longer wandered the prairie, and the grass was wilted and brown. The streams no longer ran full and deep. In the glare of the sun, the parched earth lay burning, for drought had come into the country of the Blackfoot, and with the drought came famine. Many miles wandered the hunters in search of game, only to return empty handed and with <u>waning</u> strength. Bad days had come to the Blackfoot nation and powerful ceremonies were to be held in the hope of securing relief.

Along the shore of a well-loved lake, two medicine lodges had been built, and here the ceremonies were carried on. Chants were sung and accompanied with elaborate ritual. At last these earnest prayers were heard by Old Man. Through His spirit helpers, He sent word to the suffering nation that they must send seven of their oldest and wisest men to the top of the mountain where the Wind Spirit lived. (Chief Mountain.) It was the Wind Spirit who was causing the drought, and it was he who must be appeased.

And so the seven were selected and sent forth to climb the steep mountain to its summit. But when they reached the top, the Wind Spirit was such an awe-inspiring person that their hearts failed them and they turned and fled in fear. Therefore the drought continued, the suffering increased, and the Blackfoot were in desperate straits.

Now Old Man sent word again—this time that fourteen of the young warriors must journey to the home of the Wind Spirit. The fourteen bravest were selected—those who had earned many of the hard-won eagle plumes and whose deeds were most often recounted about the evening camp fires. They made their way up the trail until they, too, stood upon the mountain crest.

The Wind Spirit waited in the door of his lodge, dreadful to behold. But these were warriors, tried and true, and though they were fearful they were brave as well. They gave no sign of weakness but drew nearer until they could reach out and touch the robe of this Mighty One.

Their courage pleased the Wind Spirit greatly. He sent them home with these words to carry to
their people. "Now am I sure that the Blackfoot are a nation of men and deserving of my favor."
6 He brought forth the life-giving rains and poured them down upon the parched land, drenching the
earth with the cool, sweet water.

When the young men reached the lake shore, they found the grass growing thick and green, the streams replenished, and the buffalo returned. From that day forth there was happiness and prosperity where dwelt the bands of the Blackfoot nation.

Please go on to the next page.

Mark your answers to questions 23 through 27 in the section marked "Reading—Session 2" in your Student Response Booklet.

ID:171244 Two Medicine La B

23. The first paragraph states that the hunters returned "with waning strength." The word waning means

    A. renewed.
    B. decreasing.
    C. extra.
    D. temporary.

ID:171245 Two Medicine La C

24. What does the first paragraph show?

    A. the lesson of the legend
    B. the power of the Wind Spirit
    C. the setting of the legend
    D. the conflict between the warriors

ID:171249 Two Medicine La D

25. The **main** purpose of paragraph 6 is to

    A. persuade the reader to search for the Wind Spirit.
    B. teach the reader about the courage of the Wind Spirit.
    C. warn the reader not to trust the Wind Spirit.
    D. show the reader the power of the Wind Spirit.

ID:171251 Two Medicine La A

26. Which quality of the Blackfoot people was **most** important to the Wind Spirit?

    A. bravery
    B. persistence
    C. wisdom
    D. kindness

ID:171253 Two Medicine La C

27. Which sentence **best** summarizes the actions taken by the Blackfoot nation to end the drought?

    A. The nation watched the grass turn brown and held rituals along the shore of a lake.
    B. The nation built two medicine lodges and listened to the chants of the wise men.
    C. The nation held ceremonies and sent two groups of men to the Wind Spirit.
    D. The nation prayed and sent brave warriors to bring back the robe of the Wind Spirit.

This selection about the grizzly bear is an excerpt from the book Montana *by Norma Tirrell. Read the excerpt and then answer the questions that follow.*

GRIZZLY COUNTRY

Norma Tirrell

Of all the animals that grace the northern Rockies and Great Plains, the one that keeps Montana truly wild is the grizzly bear. Indeed, many biologists regard the presence of the grizzly as an indicator of the quality of wilderness: where there are grizzlies, there is wilderness; where there are none, there is no wilderness.

Ever since Lewis and Clark crossed what is now Montana in 1805–1806, trouble has been brewing between people and bears. Grizzlies once numbered as high as 50,000, with a range extending east to the Mississippi River. Unfortunately, rapid Anglo expansion decimated grizzly numbers and pushed them into remote Western wilderness areas where today they are federally protected under the Endangered Species Act. Gradual recovery of bear populations, especially in Montana, has stirred debate over whether the grizzly should be "delisted" as a threatened species. Of the thousand or so grizzlies that remain in the American West, most survive in two major ecosystems: the Northern Continental Divide Ecosystem, which includes Glacier National Park and the Bob Marshall Wilderness; and the Greater Yellowstone Ecosystem which, in Montana, includes the Absaroka-Beartooth and Lee Metcalf Wilderness areas and surrounding forests.

Outside of Glacier and Yellowstone National Parks, chances of seeing a grizzly in the wild are slim. Bears do not seek human encounters. Indeed, grizzlies are so elusive that frequent visitors to bear country say they would regard it as a privilege to see one. With growing numbers of hikers visiting these wild places, however, there are bound to be conflicts. By 1997 the number of visitors to Glacier National Park and adjoining Waterton in Canada—regarded as one of the nation's premier hiking destinations—had reached more than 2.7 million a year. Bear attacks are not always fatal to people; more often the bear is the loser. If a bear becomes conditioned to human food or cannot be successfully relocated from popular trails and campgrounds, park officials may have no choice but to destroy it.

If hikers are not aware of the dangers of hiking and camping in grizzly country when they arrive in Glacier or Yellowstone, they will be by the time they reach the trailhead. In an effort to keep bears and people apart, the National Park Service publishes and distributes all manner of pamphlets, leaflets, fliers, and "bear alerts," warning visitors about the hazards of entering grizzly country. Some may think the park service is resorting to scare tactics, but maulings in both parks have forced park officials to become aggressive managers of human traffic inside park boundaries.

Most maulings occur when people take chances with bears—by hiking alone, moving in too close to a bear, or camping away from designated camping areas. A little common sense goes a
5 long way in bear country. So does a sense of perspective. Far more people have been killed by drownings, falls, and car accidents in Glacier and Yellowstone than by bears. Don't let the remote prospect of a bear encounter spoil your trip. For all who love the outdoors, this is a land of

unspeakable beauty, where grizzlies remain a symbol of wildness. Nonetheless, visitors are urged to take the following precautions when hiking or camping in bear country:

- Hike in groups and make noise; startling a bear may provoke a charge.
- Keep your food preparation and food storage areas separate, and keep both areas at least 100 yards away from your sleeping area.
- Store all food and scented items (toothpaste, deodorant, etc.) in closed containers such as large zip-lock bags and hang at least 12 feet off the ground.
- If you encounter a bear, stay calm and give it room, especially a sow with cubs or a bear defending a carcass; slowly detour or quickly look for a tree to climb.
- If a bear charges, drop something to distract it (don't drop anything containing food, as this may condition the bear to equate humans with lunch), climb a tree, or as a last resort assume a "cannonball" position to protect your head and stomach while playing dead; never run from a grizzly; they are *much* faster than you and fleeing might trigger a prey instinct in the bear, causing it to charge.

Mark your answers to questions 28 through 32 in the section marked "Reading—Session 2" in your Student Response Booklet.

ID:171258 Grizzly Country A

28. According to the selection, what is the **main** cause of problems with grizzly bears?

   A. increased contact between people and grizzly bears

   B. decreased food supply for grizzly bears

   C. increased grizzly bear population

   D. decreased federal protection for grizzly bears

ID:171263 Grizzly Country B

29. When the author writes in paragraph 5 that people visiting bear country need to have "a sense of perspective," she means that people should

   A. fear grizzly bear attacks more than any other dangers.

   B. realize that grizzly bear attacks are not the most common danger.

   C. carefully view all grizzly bears from a safe distance.

   D. realize that grizzly bears are social animals who want to be with people.

Please go on to the next page.

ID:171265 Grizzly Country C

30. Why does the author suggest that people should make noise when hiking in the wilderness?

    A. to lessen the chance of being lost
    B. to increase the chance of seeing a grizzly bear
    C. to prevent a grizzly bear encounter
    D. to eliminate any hiking accidents

ID:171270 Grizzly Country D

31. The information in this article could **best** be used in

    A. an editorial in favor of saving the grizzly bear from hunters.
    B. a pamphlet to encourage keeping wilderness areas in the Rockies free of people.
    C. a petition to keep grizzly bears from roaming freely.
    D. a brochure about visiting wilderness areas in the Rockies.

ID:171275 Grizzly Country C

32. What is the **main** point that the author wants to communicate to the reader?

    A. People should avoid camping and hiking in grizzly bear country.
    B. Grizzly bears are an endangered species and should be protected.
    C. People can enjoy grizzly bear country by taking certain precautions.
    D. Grizzly bears now live in many areas east of the Mississippi River.

Reading
Session 3

This test session includes reading selections, multiple-choice questions, and a question for which you must write out your answer. After you read each selection, answer the questions about it in the spaces provided in your Student Response Booklet. You may not use a dictionary or any other reference tool during this session.

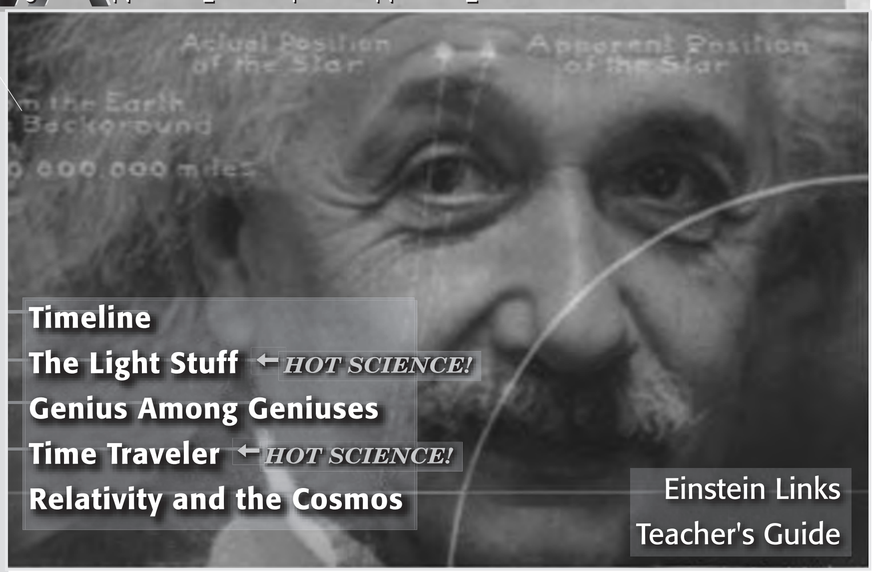
Read this companion Web page to the NOVA *television program "Einstein Revealed." Then answer the questions that follow.*

PBS Home | Search | Programs A-Z | TV Schedules | Shop | Membership

Timeline | Genius | Relativity | Light Stuff | Time Traveler | Links

NOVA ONLINE

EINSTEIN REVEALED



Join Us/E-mail
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Site at a Glance
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NOVA Home

Welcome to the companion Web site to the NOVA program "Einstein Revealed," originally broadcast in October, 1996. This two-hour special presents a penetrating profile of Albert Einstein, who contributed more than any other scientist to our modern vision of physical reality. Here's what you'll find online:

- **Timeline**
  Explore the turning points in Einstein's life, both personal and professional.

- **The Light Stuff** (Hot Science)
  The speed of light is constant . . . but only out in space. Find out how the speed of light can change here on Earth.

Please go on to the next page.

- **Genius Among Geniuses**
  NOVA producer Tom Levenson explains what makes Einstein stand out from other great scientists in history.

- **Time Traveler** (Hot Science)
  Play this time traveler game to see the so-called "twin paradox" in action. (Shockwave)

- **Relativity and the Cosmos**
  Noted physicist and science writer Alan Lightman describes how Einstein's general theory of relativity laid the foundation for cosmology.

Plus Links and a Teacher's Guide.

Einstein Revealed
Go to the companion Web site

A two-hour NOVA special presents a penetrating profile of Albert Einstein, who contributed more than any other scientist to our modern vision of physical reality. Enlivened by dramatizations based closely on Einstein's writings and the recollections of his friends, our program will trace his extraordinary rise from a student who flunked his engineering exams to the world's most renowned physicist—a transformation that took barely a decade. What was the secret of Einstein's scientific creativity? How did a lowly patent clerk without regular access to academic literature or other scientists come up with three revolutionary theories in the single 'miracle' year of 1905? How did Einstein, the pacifist, later evolve to become a crucial advocate of the Manhattan Project? And does Einstein's popular image of a lovable eccentric match reality? NOVA draws on the latest scholarly studies of Einstein's private life to reveal a complex personality.

Original broadcast date: 10/01/96
Topic: biography, physics

Mark your answers to questions 46 through 50 in the section marked "Reading—Session 3" in your Student Response Booklet.

ID:178252 Einstein Reveal A

46. What is the purpose of the headings in the black bar at the beginning of the selection?

    A. They lead to other parts of the Web site.

    B. They persuade people to join PBS.

    C. They show what is on the page below.

    D. They summarize "Einstein Revealed."

ID:178257 Einstein Reveal C

47. Under which bulleted heading would you find information on scientists other than Einstein?

    A. "Timeline"

    B. "The Light Stuff"

    C. "Genius Among Geniuses"

    D. "Time Traveler"

ID:178258 Einstein Reveal D

48. Which information would you **most likely** find in "Relativity and the Cosmos"?

    A. what jobs Einstein had during his lifetime

    B. how the speed of light relates to Einstein's theory

    C. what other scientists thought about Einstein's work

    D. how Einstein changed people's views of the universe

ID:178261 Einstein Reveal C

49. What is the relationship between this Web site and the program "Einstein Revealed"?

    A. The Web site tells about how the program was made.

    B. The program and the Web site are meant to be used at the same time.

    C. The Web site provides additional information related to the program.

    D. The producers of the program made the Web site to explain their work.

ID:181011 Einstein Reveal C

50. How is the information on this Web site organized?

    A. It describes events in chronological order.

    B. It makes a series of comparisons and contrasts.

    C. It lists main ideas and then gives supporting details.

    D. It provides information in order of importance.

Please go on to the next page.

In this excerpt from The Invisible Thread*, the narrator reflects on her Japanese heritage. Read the passage and then answer the questions that follow.*

Foreigner in Japan

Yoshiko Uchida

I was twelve when we sailed on the *Chichibu Maru* to visit my Grandmother Umegaki in Japan. My parents had taken me once before when I was two, but since I didn't remember that visit, I felt it didn't count. This time we were taking along our Los Angeles grandmother for her first visit to Japan since her departure so many years before.

I considered this my first ocean voyage, although I had gone often with my parents to see friends off at the drafty San Francisco piers. We would be among dozens of well-wishers crowding on board the ship to visit friends in staterooms bursting with luggage, flowers, and baskets of fruit. Caught up in the festive excitement, I used to wish *I* were the one sailing off to Japan.

When one of the cabin attendants traveled through the corridors beating the brass gong, however, I always felt a cold chill run down my spine.

"Come on, Papa," I would urge. "That's the 'all ashore that's going ashore' gong. Let's go."

But Papa continued talking with his friends, totally ignoring the urgent banging of the gong. By the time the passengers moved to the deck to throw rolls of colored tape to their friends below, the rest of us hurried down the narrow gangplank.

Papa, however, was still on board, smiling and waving from the upper deck. He would throw a roll of blue tape to my sister and a pink one to me.

"Come on, Papa!" we would shriek. "Hurry up!"

Finally, minutes before the gangplank was pulled up, he would saunter down, calmly saying, "Don't worry, they would never sail with me still on board."

Papa had a permanent dock pass to board the ships, and he came so often to meet friends or to see people off that he seemed to know everybody. For him the ships were familiar territory, but to me they were exotic, majestic, and slightly mysterious.

But this time, at last, I didn't have to worry about Papa getting caught on board a departing ship. This time we were passengers. *We* were the ones sailing to Japan. *We* were the ones everybody had come to see off. The baskets of fruits and flowers in the stateroom from Papa's business friends were for *us*. So were the gardenia corsages and the bouquets of flowers. 10

Now *I* was the one throwing rolls of tape down to our friends on the pier and waving and calling good-bye.

As the ship slowly eased out into San Francisco Bay, the wind tugged at the streamers I held in my hand. But I wouldn't let go. I hung on until the ship snatched them from the hands of the friends we'd left behind, and I watched as they fluttered off into the sky looking like a flying rainbow. 12

"Hey, we're really going!" I said to Keiko. "We're really going to Japan!"

But ten minutes after we had sailed through the Golden Gate, the ship began to pitch and roll, and my happy grin soon disappeared. The ever-present smell of bouillon I'd found so inviting earlier now made me turn green. All of us except Papa took to our bunks and stayed there for the next four days.

When we were finally able to join Papa in the dining salon, our waiters were so pleased to have a full table to serve, they broke into applause as we appeared.

By this time all shipboard activities were in full swing, and Keiko and I worked hard to catch up. We played shuffleboard and deck tennis. We had hot bouillon served by white-coated attendants who rolled the soup cart up and down the decks each morning at ten o'clock. We went to every afternoon tea, stuffing ourselves with little cakes and fancy sandwiches, and amazingly had room for a big dinner in the evening.

One night there was a sukiyaki* party on the lantern-festooned deck. For once I didn't have to set the table and neither Mama nor Papa had to cook. *We* were the company, and I was delighted
17 that the ship's waiters did all the work. The Deans of Women of Mills College and the University of California in Berkeley happened to sit at our table, and we showed them how to use chopsticks and eat Japanese food.

"You'll have to send one of your daughters to each of us," they teased Mama and Papa. And that is exactly what happened. Keiko went to Mills College and I went to UC Berkeley.

The day a costume party was scheduled, Keiko and I worked all day to prepare for it. She wore a pair of Papa's pants and suspenders, drew a mustache on her face, and squashed one of his hats on her head.

I dressed up like a doll, painting round circles
20 of rouge on my cheeks. We tied strings to my wrists and ankles, attached them to two sticks, and went to the costume party as Tony the puppeteer and his doll puppet. We were beside ourselves when we won first prize.

By the time we neared Yokohama, I was so charmed with the good life on board the *Chichibu Maru*, I didn't want to get off.

Mama, on the other hand, could hardly wait. The morning we docked, she was up early. As our ship slid noiselessly alongside the pier, she impulsively pushed open one of the cabin's portholes to scan the faces on the pier.

Suddenly I heard her shout, "Oka San! Mother!"

It was a voice I had never heard before—filled with the longing and anguish of years of separation and a joy mingled with tears.

This was a Mama I'd never known before. For the first time in my life, I saw her not just as Mama who cooked and washed and sewed for us, but as someone's daughter. She was a person with a life and feelings of her own quite apart from mine.

For a fleeting moment I thought I understood the turmoil of her uprooted soul. But in the excitement of landing, the feeling passed, and she became once more the Mama I had always known.

*sukiyaki: thin beef strips cooked briefly at the table with onions, greens, and soy sauce

Mark your answers to questions 51 through 55 in the section marked "Reading—Session 3" in your Student Response Booklet.

ID:177121 Foreigner in Ja A

51. In paragraph 10, the words *we* and *us* are in italics to show

    A. how special the narrator felt.
    B. the name of the ship.
    C. to whom the narrator is talking.
    D. the narrator's family is foreign.

ID:177115 Foreigner in Ja C

52. In paragraph 12, the streamers **most likely** symbolize the narrator's

    A. fear of being on a ship.
    B. longing for Japan.
    C. attachment to her friends.
    D. wish to see a rainbow.

Please go on to the next page.

ID:177123 Foreigner in Ja D

53. Paragraph 17 states, "One night there was a sukiyaki party on the lantern-<u>festooned</u> deck." What does <u>festooned</u> mean?

    A. colorful

    B. empty

    C. dim

    D. decorated

ID:177119 Foreigner in Ja C

54. Which detail **best** shows that the narrator enjoys sharing her Japanese culture?

    A. She watches her father talk to his friends after the gong sounds.

    B. She does not let go of the streamers as the ship sets sail.

    C. She and her sister show people how to eat with chopsticks.

    D. She and her sister dress up for the costume party.

ID:177125 Foreigner in Ja A

55. This story is **best** described as

    A. autobiography.

    B. a folktale.

    C. a myth.

    D. drama.

This article tells about the Zamboni brothers. Read the article and then answer the questions that follow.

Nice Ice!

Andrea Jachman

Frank Zamboni and his brother Lawrence were known as "ice men"; they owned a plant that made block ice used while transporting fruits and other perishables by rail across the country. By the 1940s, however, other plants began manufacturing refrigeration machines that would soon make the brothers' business obsolete.

Born in the Desert

But the Zamboni brothers were determined to make a business out of what they knew—ice. That first happened with the creation of the Iceland Skating Rink, which opened for business in 1940 in Paramount, California, and which presented its own set of problems.

A new dome over the rink helped solve one problem—the damage done by the intense California sun and the hot desert winds. That left another big problem. The brothers quickly discovered that maintaining their ice sheet for the legions of visitors was hard work. With 20,000 square feet of ice surface, the rink was big enough for up to 800 skaters at a time—a lot of business, but a lot of work. What were they to do about the daily, unavoidable wear and tear caused by enthusiastic skaters?

The customary method for ice resurfacing at the time was laborious and time-consuming. First, any standing dirty water had to be mopped off. Then, a tractor circled the ice, pulling a scraper that shaved the surface. Workers would follow
4 behind to scoop off the shavings. Finally, an extra-long hose was used to spray a fresh layer of water, which would freeze into a glistening, smooth surface for the next round of skaters. This process could take up to two hours.

The brothers knew there had to be a better way. In 1942, they began working on a Jeep that would incorporate all those capabilities into one machine. It would take seven years until the first successful Zamboni took its turn around the rink. They called that Zamboni the Model A.

Success and Some Help from a Star

The Model A had huge wooden sides and a conveyor belt system to remove the snow. It was odd looking, but it did the job. It scraped the ice, scooped up the shavings, smoothed the surface, and then coated it with clean, fresh water—all 6
within fifteen minutes! The Zamboni brothers had solved the problem of smoothing the ice at Iceland. That was all they ever wanted. But that was before fortune came knocking on their door.

Olympic figure skater Sonja Henie frequently practiced at Iceland. The moment she saw the Zamboni drive onto the ice, she knew she had to have one. In her honor the Zamboni brothers built the Model B and personally delivered it to her at Chicago Stadium, where she was performing. In Chicago, ice rink owners, performers, and arena managers throughout the country received a glimpse of the marvelous Model B. They, too, wanted Model Bs of their own, and the orders came pouring in.

The Zambonis continued to tinker with their Model B, and none of the first 16 sold were exactly alike. The first to have significant design changes became the Model C. This model's driver's seat was elevated for better visibility, and the snow tank was lowered for more snow capacity. The differences between the Model C and the later Model D were mostly cosmetic.

The Model E was a breakthrough for the brothers; it was the first that could be mass-produced. And it was right on time. It was 1954, and national exposure of the Zamboni had created quite a demand. In 1958 it would gain international attention at the Winter Olympics in Squaw Valley, California. And with ice-skating becoming an increasingly popular pastime, a rising demand had to be met.

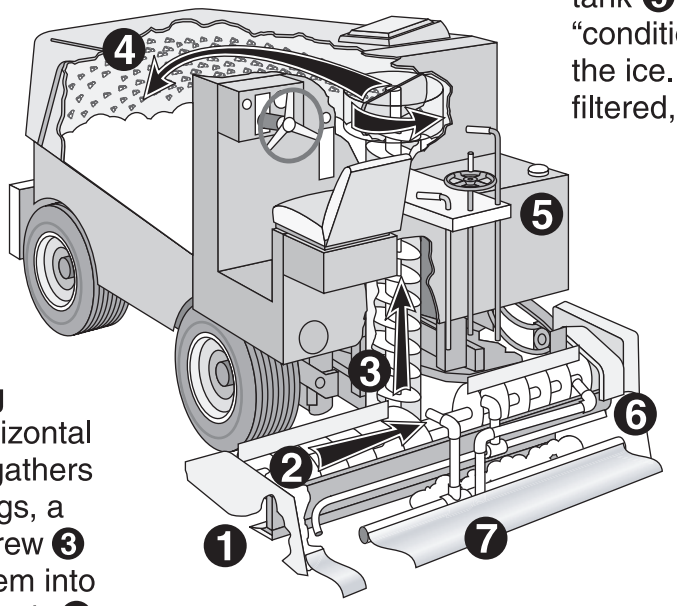
Alterations continued, creating the Model F, the
10 HD series, and the 500 series of today. With each new model the Zambonis improved their invention, eventually abandoning the cumbersome Jeep and using just its chassis, or body, thus increasing its water- and snow-carrying capacities.

A Rink Ritual Unchanged

Today the Zamboni is used around the world, but each new machine goes through this time-honored ritual: after production at the original southern California plant, it is driven down the streets of Paramount to the Iceland Skating Rink for a test drive and then loaded off for work in parts unknown.

How It Works

Shaving
A blade ❶ shaves the surface of the ice.



Collecting
After a horizontal screw ❷ gathers the shavings, a vertical screw ❸ propels them into the snow tank. ❹

Washing
Water is fed from a wash-water tank ❺ to a squeegee-like "conditioner" ❻ , which smooths the ice. Dirty water is vacuumed, filtered, and returned to the tank.

Renewing
Clean hot water is spread on the ice by a towel ❼ behind the conditioner.

Mark your answers to questions 56 through 66 in the section marked "Reading—Session 3" in your Student Response Booklet.

ID:177032 Nice Ice! C

56. In the first paragraph, the author writes, "refrigeration machines . . . would soon make the brothers' business obsolete." The word obsolete means
    A. expensive.
    B. difficult.
    C. outdated.
    D. disliked.

ID:177033 Nice Ice! A

57. Based on information from the article, what was surprising about the development of Zambonis?
    A. They were invented in a desert.
    B. They were built by a businessman.
    C. They became popular so quickly.
    D. They went through so many changes.

ID:177053 Nice Ice! B

58. Why were the Zamboni brothers able to successfully start a new business?
    A. They already were experienced at running ice rinks.
    B. They had a lot of knowledge about making ice.
    C. They were friends with a lot of famous skaters.
    D. They lived where natural ice and snow did not exist.

ID:177055 Nice Ice! D

59. What problem did the Zamboni brothers continually face?
    A. having to employ a team of workers
    B. the damage caused by the sun and wind
    C. an insufficient supply of clean water
    D. the wear and tear caused by skaters

ID:177035 Nice Ice! D

60. What is the main idea of paragraph 4?
    A. Workers would scoop off the ice shavings.
    B. A tractor pulled a scraper to shave the ice.
    C. Dirty water had to be mopped off the ice.
    D. Resurfacing the ice took a long time.

ID:177056 Nice Ice! B

61. In paragraph 6, what does "fortune came knocking on their door" mean?
    A. Skaters were lined up outside the brothers' rink.
    B. The brothers were given a good opportunity.
    C. Sonja Henie loaned the brothers money.
    D. The brothers' hard work had paid off.

ID:177059 Nice Ice! A

62. In paragraph 10, what does cumbersome mean?
    A. bulky
    B. costly
    C. ugly
    D. unstable

ID:177044 Nice Ice! B

63. The "How It Works" section states, "After a horizontal screw gathers the shavings, a vertical screw propels them into the snow tank." What does "pro" in propels mean?

    A. melt
    B. forward
    C. crush
    D. run

ID:177046 Nice Ice! D

64. Which list names the Zamboni operations in the correct sequence?

    A. shaving, washing, collecting, renewing
    B. shaving, collecting, renewing, washing
    C. shaving, washing, renewing, collecting
    D. shaving, collecting, washing, renewing

ID:177050 Nice Ice! C

65. The **main** purpose of this passage is to

    A. explain how the Zamboni works.
    B. show why the Zamboni is a popular machine.
    C. describe how the Zamboni was developed.
    D. compare different models of Zambonis.

ID:177061 Nice Ice! B

66. Which pattern is used to organize the information in this passage?

    A. cause and effect
    B. chronological order
    C. comparison and contrast
    D. proposition and support

Write your answer to question 67 in the space provided for it in your Student Response Booklet.

ID:177048 Nice Ice!

67. Is this article about good fortune, skill, or both? Explain your answer, using details from the article to support your explanation.

Please STOP. Do not go on to the next page.

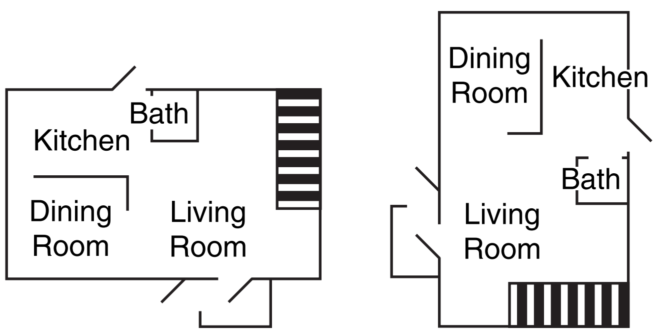
Mathematics
Session 1 (Calculator)

This test session includes multiple-choice questions and a question for which you must show your work or write out your answer. You may use a calculator during this session.

Mark your answers to questions 1 through 24 in the section marked "Mathematics—Session 1 (Calculator)" in your Student Response Booklet.

ID:191011 CL0308-floor_pl A

1. Pictured below are floor plan designs for two houses made by the same builder.



Floor Plan 1 **Floor Plan 2**

Which transformation was applied to Floor Plan 1 to create Floor Plan 2?

A. a rotation

B. a reflection

C. a dilation

D. a translation

ID:177274 A

2. Hill's comet passes by Earth every 32 years. Kreel's comet passes by Earth every 24 years. If both comets pass by Earth this year, when is the next time that both comets will pass by Earth in the same year?

A. in 96 years

B. in 144 years

C. in 256 years

D. in 768 years

ID:177299 B

4. Cody plans to buy a bicycle that costs \$264.95 before tax. The sales tax is 6%. What will be the total cost of the bicycle, including the sales tax?

A. \$270.95

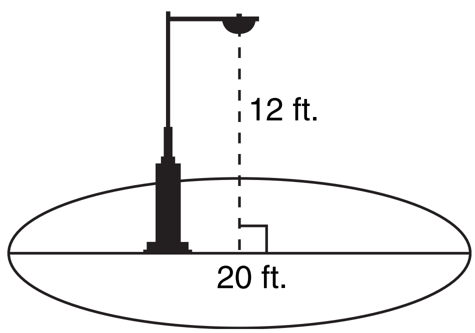
B. \$280.85

C. \$309.06

D. \$324.95

ID:177324 CL0317-street_l D

5. A streetlamp that is 12 ft. above the ground casts a circle of light 20 ft. in diameter, as shown in the diagram below.



If the height of the lamp is raised by 6 ft., what would be the diameter of the resulting circle of light?

A. 18 ft.

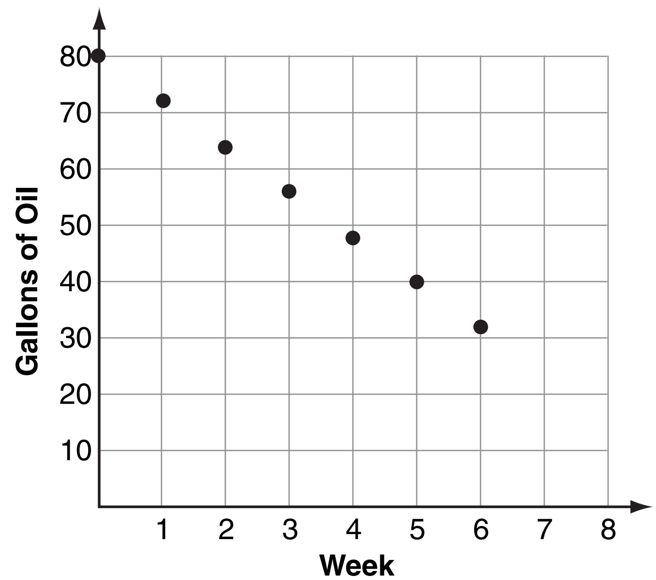
B. 26 ft.

C. 28 ft.

D. 30 ft.

ID:177334 KD10318-oil_tan C

6. The graph below shows the number of gallons of oil in a leaking tank over a period of six weeks.



If the tank continues to leak at the same rate, in what week should it be expected to run out of oil?

A. week 7

B. week 8

C. week 10

D. week 12

ID:177262 D

7. A survey taken at Warren Middle School showed that 39% of the students participate in sports and 68% attend sporting events. Which statement regarding student participation in sports and attendance at sporting events is **most** accurate?

A. About $\frac{1}{4}$ participate and about $\frac{3}{4}$ attend.

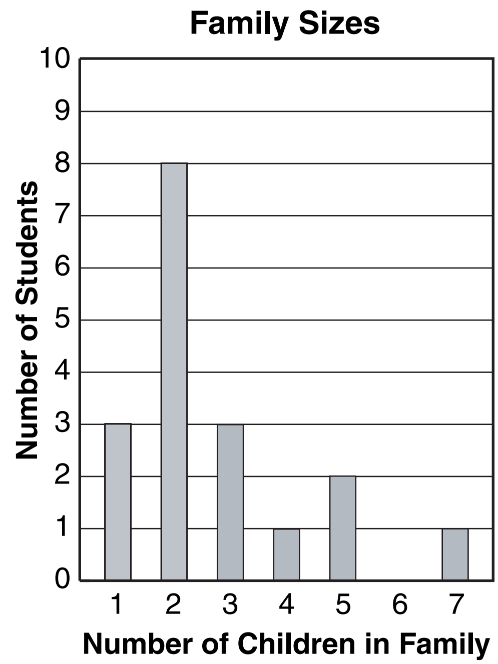
B. About $\frac{1}{4}$ participate and about $\frac{2}{3}$ attend.

C. About $\frac{2}{5}$ participate and about $\frac{3}{4}$ attend.

D. About $\frac{2}{5}$ participate and about $\frac{2}{3}$ attend.

ID:178081 KD10340-family_ B

8. Ms. Green asked her students how many children were in each of their families. The results are shown in the graph below.



Which statement about these data is true?

A. The mean is less than the median.

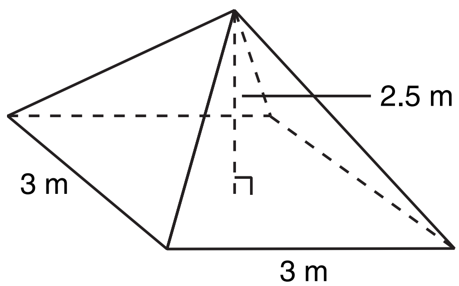
B. The mean is greater than the median.

C. The mean and the median are equal.

D. More information is needed to compare the mean and the median.

ID:177335 CL0324-greenhou A

9. Jim built a greenhouse shaped like a square pyramid with the measurements shown below.



What is the volume of his greenhouse?

A. 7.5 cubic meters

B. 8.5 cubic meters

C. 22.5 cubic meters

D. 67.5 cubic meters

ID:178079 B

10. The chart below shows how many points Terry scored in her first four basketball games.

Game	Points Scored
1	8
2	12
3	5
4	9
5	

How many points must Terry score in the fifth game in order to have an average of 10 points per game for the first five games?

A. 10

B. 16

C. 20

D. It is not possible for Terry to have an average of 10 points after five games.

ID:177309 D

11. Which strategy would **not** double the floor area of a rectangular room?

A. multiplying the length of the room by 2 and keeping the width the same

B. multiplying the width of the room by 2 and keeping the length the same

C. multiplying both the length and the width of the room by $\sqrt{2}$

D. multiplying both the length and the width of the room by 2

ID:177345 A

12. To be elected to the Hall of Fame, a baseball player must be named on 75% of the ballots. A certain player appears on 210 of the ballots cast so far. If there are b ballots cast altogether, on how many **more** ballots must that player be named to be elected to the Hall of Fame?

A. $0.75b - 210$

B. $0.75b + 210$

C. $0.75b$

D. $210 - 0.75b$

ID:177333 C

13. Joseph traveled for 2 hours at an average speed of 55 miles per hour. He then traveled for 3 hours at an average speed of 65 miles per hour. What was his average speed for the whole 5-hour trip?

A. 59 miles per hour

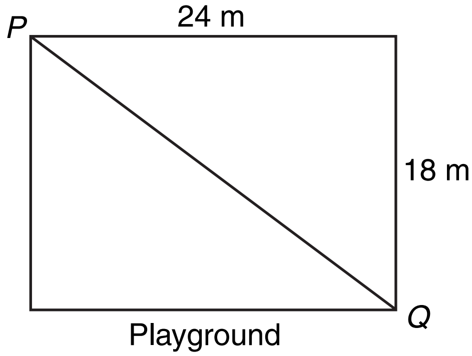
B. 60 miles per hour

C. 61 miles per hour

D. 63 miles per hour

ID:177337 CL0325-playgrou B

14. The school playground is rectangular and has the measurements shown below.



Jacques wants to walk from point *P* to point *Q*. How much shorter would it be for Jacques to walk along the diagonal rather than around the edge?

A. 6 m
B. 12 m
C. 30 m
D. 36 m

ID:177295 A

15. Ms. Smith asked the students to simplify the following expression:

$$4 \times (32 + 50 + 68)$$

Maya and Lee found the answer in different ways.

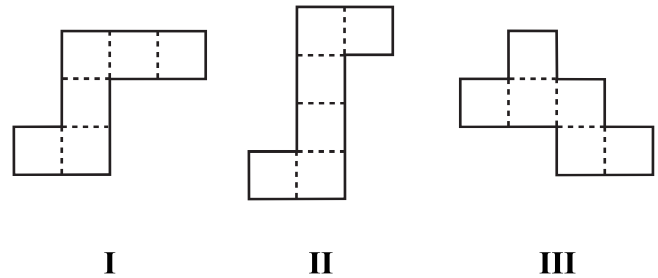
- Maya multiplied 4 by 50, then multiplied 4 by the sum of 32 and 68, and then added the results.
- Lee multiplied 4 by 32, then added 50 and 68, and then added the results.

Who is correct?

A. only Maya
B. only Lee
C. They are both correct.
D. Neither one is correct.

ID:177305 CL0303-nets.eps C

Use the nets shown below to answer question 16.



16. Which nets will make a cube when folded on the dotted lines?

A. I and II only
B. I and III only
C. II and III only
D. I, II, and III

ID:177396 C

17. Debra is taking a dance class in which she is learning the same number of new dance steps each week after the first. The table below shows her results for the last three weeks.

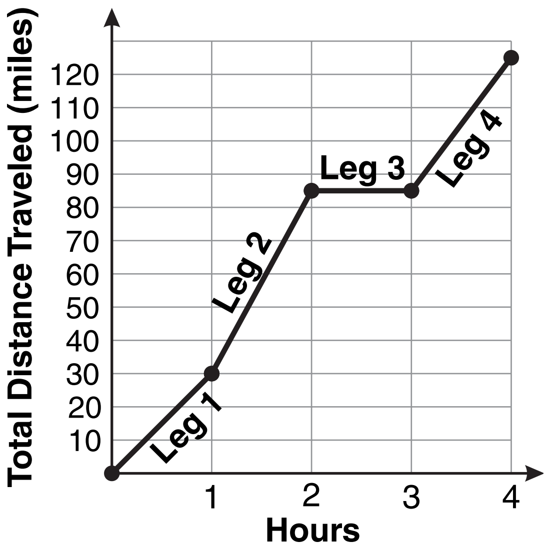
Week Number	Total Dance Steps Debra Knows
1	8
2	11
3	14

If *d* represents the total number of dance steps that Debra knows and *w* represents the number of weeks, which equation correctly describes the relationship between *d* and *w*?

A. $d = w + 3$
B. $d = w + 7$
C. $d = 3w + 5$
D. $d = 3w + 8$

ID:177402 RD10333_trip_gr B

18. The graph below shows the total distance traveled by a group of people on a bus trip over a period of four hours.



During which leg did the group travel the fastest?

A. Leg 1
B. Leg 2
C. Leg 3
D. Leg 4

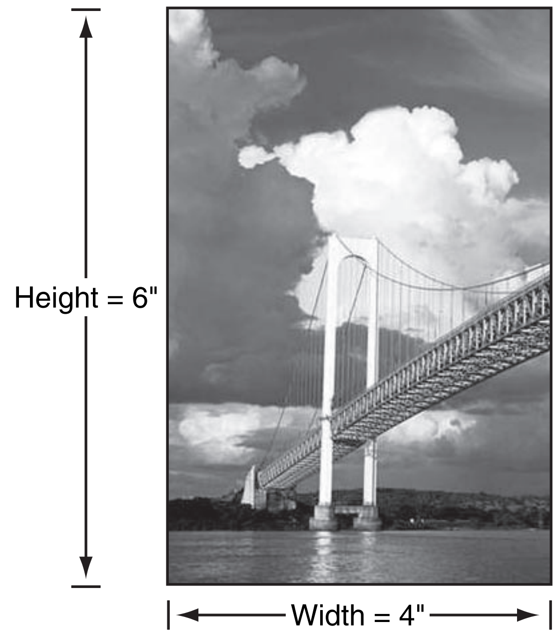
ID:177322 C

19. Two containers look alike except for their size. The large one is 30 cm long, 9 cm high, and 7 cm wide. The small one is 20 cm long. If the containers are geometrically similar, what are the height and width measurements of the small container?

A. 5 cm high and 4 cm wide
B. 6 cm high and 4 cm wide
C. 6 cm high and 4.7 cm wide
D. 6.5 cm high and 4.7 cm wide

ID:177266 MH18105-newspap A

20. Jason wants to include the picture shown below in the article he is writing for the school newspaper.



The picture will be reduced so that its width is 2.5 inches. Which proportion can be used to find how tall it will be after the reduction?

A. $\frac{2.5}{x} = \frac{4}{6}$

B. $\frac{2.5}{x} = \frac{6}{4}$

C. $\frac{x}{4} = \frac{2.5}{6}$

D. $\frac{x}{4} = \frac{6}{2.5}$

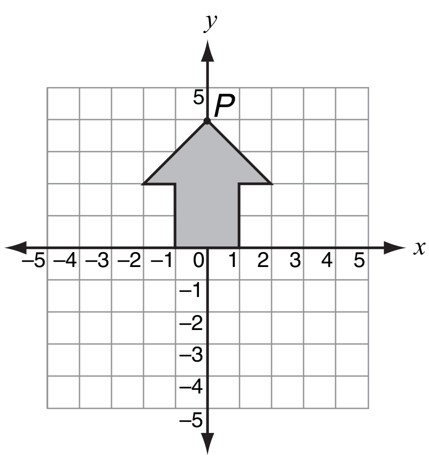
ID:177403 B

21. The length, l, and width, w, of any rectangle that has an area of 10 square units are related by the formula $l = \frac{10}{w}$. In this formula, if the value of w is multiplied by 2, what is the effect on l?

A. l is divided by 20
B. l is divided by 2
C. l is multiplied by 2
D. l is multiplied by 20

ID:191012 CL0311-grid_wit D

Use the figure below to answer question 22.



22. If the arrow shown in this figure is rotated 90° clockwise about the origin—the point (0, 0)—what will be the coordinates of the image of point P?

A. (0, 4)
B. (0, –4)
C. (–4, 0)
D. (4, 0)

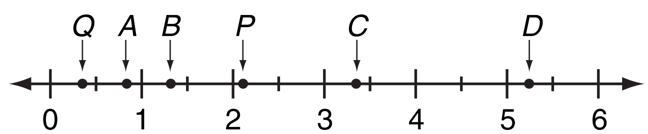
ID:177344 A

23. Martin works out on a weight machine each week. The first week he used 30 pounds. Each week after that, he added 5 pounds per week. If p represents the total number of pounds and w represents the number of weeks after the first, which equation correctly represents the relationship between p and w?

A. $p = 30 + 5w$
B. $p = 5 + 30w$
C. $w = 30 + 5p$
D. $w = 5 + 30p$

ID:177277 APD18107-number D

Use the number line below to answer question 24.



24. Which point on the number line is closest in value to $\frac{P}{Q}$?

A. point A
B. point B
C. point C
D. point D

Write your answer to question 25 in the space provided for it in your Student Response Booklet. Show all of your work.

ID:178091

25. A regular sandwich at Smarty's Deli consists of bread, one kind of meat, and one kind of cheese. The choices are listed in the table below.

Bread	Meat	Cheese
white (w) oatmeal (o) pita (p)	turkey (t) ham (h) roast beef (r) corned beef (c) bologna (b)	American (A) Swiss (S)

a. Sandra always orders white bread, but she will order any of the meats or cheeses. Make an organized list or diagram to show all of the possible meat-and-cheese regular sandwich combinations that Sandra could order.

b. Lew likes all of these breads, meats, and cheeses. How many different regular sandwiches can Lew order? Show or explain how you found your answer.

c. Smarty's offers a "Three-Meat Special," which is a sandwich with three different kinds of meat. How many different ways can a person choose three different meats from the five kinds listed? Show or explain how you found your answer.

Mathematics
Session 2A (Calculator)

This test session includes multiple-choice questions and a question for which you must show your work or write out your answer. You may use a calculator during this session.

Mark your answers to questions 26 through 33 in the section marked "Mathematics—Session 2A (Calculator)" in your Student Response Booklet.

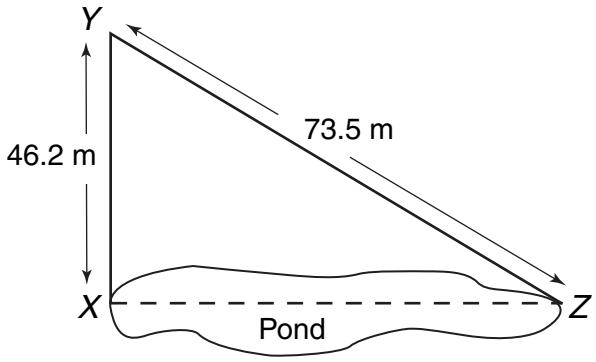
26. Tracy limits the amount of caffeine she drinks to a mean of 100 milligrams per day. In the last 6 days she consumed a mean of 105 milligrams per day. What is the most caffeine Tracy could consume on day 7 to stay at or below her limit?

    A. 10 milligrams
    B. 70 milligrams
    C. 90 milligrams
    D. 100 milligrams

27. The formula $w = 5{,}000d(d + 1)$ is used to determine the weight (w) in pounds that a rope that is d inches in diameter can hold. How much weight can a rope that is 1.5 inches in diameter hold?

    A. 11,251 pounds
    B. 12,000 pounds
    C. 16,250 pounds
    D. 18,750 pounds

28. A surveyor placed markers at points X, Y, and Z around a pond. There is a right angle at X.

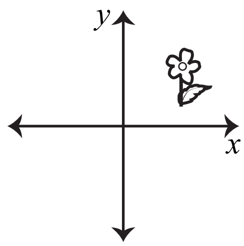


What is the distance from point X to point Z across the pond?

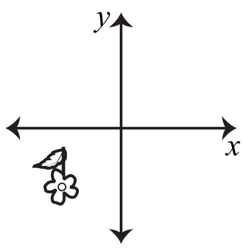
A. 119.7 m
B. 86.8 m
C. 57.2 m
D. 27.3 m

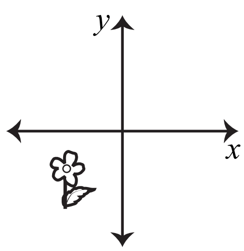
ID:166328 KG389-flower_gr A

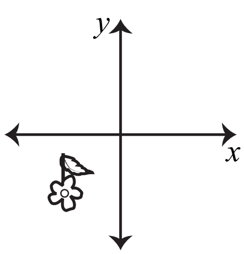
Use the graph below to answer question 29.

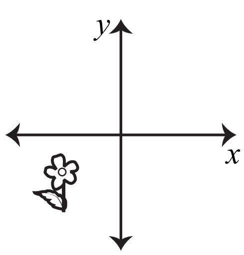


29. Which graph shows the image of the flower after it has been reflected first over the x-axis and then over the y-axis?

A. 

B. 

C. 

D. 

ID:165789 B

30. The first four numbers in a number sequence are shown below.

$$2, -6, 18, -54, \ldots$$

What is the seventh term of the number sequence?

A. –1458

B. 1458

C. –486

D. 486

Please go on to the next page.

Mathematics
Session 2B (No Calculator)

This test session includes multiple-choice questions and questions for which you must show your work or write out your answer. You may NOT use a calculator during this session.

Mark your answers to questions 35 through 41 in the section marked "Mathematics—Session 2B (No Calculator)" in your Student Response Booklet.

ID:191013 A

35. Lisa charges \$4 per hour to babysit. She wants to make \$35 babysitting this weekend. If h represents the number of hours that Lisa babysits, which equation could she use to calculate the number of hours she will need to babysit to make \$35?

A. $4h = 35$

B. $4 + h = 35$

C. $35 + h = 4$

D. $35h = 4$

ID:165735 C

36. Marlene reported she lives 1.81 miles from school. Which estimate is closest to the distance Marlene lives from school?

A. $1\frac{1}{8}$ miles

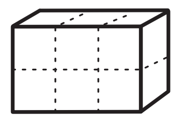
B. $1\frac{3}{4}$ miles

C. $1\frac{4}{5}$ miles

D. $1\frac{8}{100}$ miles

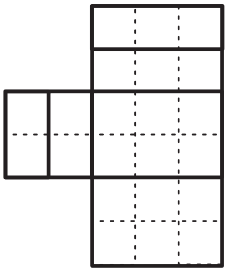
ID:166335 APDB3405-box_&_ B

Use the rectangular prism shown below to answer question 37.

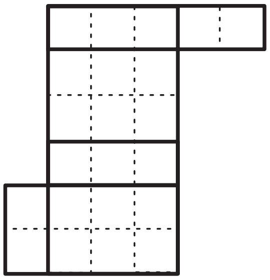


37. Which net could be folded on the solid lines to form this rectangular prism?

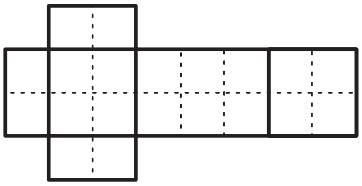
A.



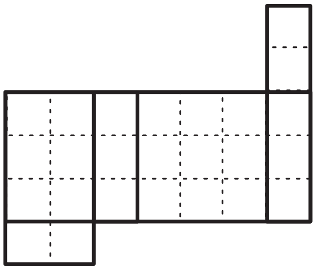
B.



C.



D.



Please go on to the next page.

ID:165750 D

38. A recipe for a fruit smoothie calls for $\frac{2}{3}$ cup of ice cream. Jack has 6 cups of ice cream. Which expression should he use to determine the number of fruit smoothies he can make?

A. $6 + \frac{2}{3}$

B. $6 - \frac{2}{3}$

C. $6 \times \frac{2}{3}$

D. $6 \div \frac{2}{3}$

ID:166174 C

39. Maggie recorded the number of girls participating in sports at her school over the last five years.

Year	Sports Participation
1	90 girls
2	95 girls
3	102 girls
4	108 girls
5	114 girls

Maggie is using a grid to make a bar graph of the sports data. For which scale and interval would the number of girls participating in sports seem to have increased the most?

A. Scale 0 to 120; Interval 20

B. Scale 0 to 120; Interval 5

C. Scale 80 to 120; Interval 2

D. Scale 80 to 120; Interval 5

Mathematics
Session 3 (No Calculator)

This test session includes multiple-choice questions and questions for which you must show your work or write out your answer. You may NOT use a calculator during this session.

Mark your answers to questions 44 through 64 in the section marked “Mathematics—Session 3 (No Calculator)” in your Student Response Booklet.

ID:178085 D

44. Jamaal flipped a fair coin 10 times. His results are shown below. (H represents heads and T represents tails.)

T, H, H, H, T, H, H, T, H, H

Which statement about Jamaal’s eleventh flip is true?

A. It is more likely that Jamaal will get heads, because most of his first 10 flips were heads.

B. It is more likely that Jamaal will get tails, because his last flip was heads.

C. It is more likely that Jamaal will get tails, because most of his first 10 flips were heads.

D. It is equally likely that Jamaal will get heads or tails, because each flip is independent.

ID:177327 B

45. A car is 5 yards long. Which is the best estimate of the length of this car in meters?

A. 4 meters

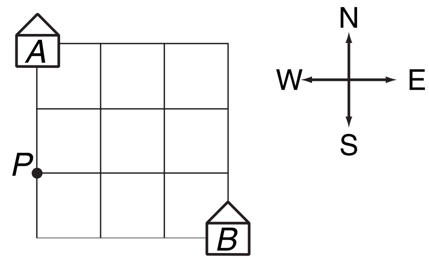
B. 4.5 meters

C. 5 meters

D. 5.5 meters

ID:177321 CL0314-walking_ C

Use the map below to answer question 46.



46. Each day Allan walks from his house (A) to Brenda’s house (B) on the streets shown on the map. If he always walks either south or east, how many of his possible routes go through the intersection at point P?

A. 2

B. 3

C. 4

D. 5

ID:177342 A

47. Which expression is equivalent to $3x + 6 - (4x - 8)$?

A. $-x + 14$

B. $-x - 2$

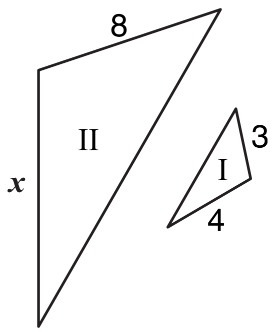
C. $x - 2$

D. $x + 14$

Please go on to the next page.

ID:177300 KD0301-two_tria B

Use the figures below to answer question 48.



48. Which equation must be true in order for triangle II to be similar to triangle I?

A. $\frac{3}{4} = \frac{x}{8}$

B. $\frac{3}{8} = \frac{4}{x}$

C. $8 - 4 = x - 3$

D. $3 + 8 = 4 + x$

ID:178441 D

49. If $3 - 2x = 7$, what is the value of $15 - 2x$?

A. –19

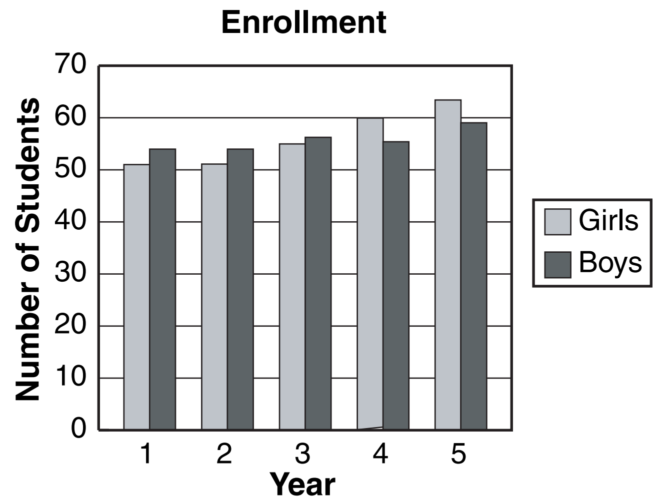
B. –5

C. 5

D. 19

ID:178076 RD10335-enrollm A

50. The bar graph below shows the enrollment at a performing arts school over a five-year period.



Without changing the overall size of the axes, which change would do the most to make the difference between the number of girls attending and the number of boys attending appear greater than it does in this graph?

A. Have the vertical axis run from 40 to 70.

B. Add 80, 90, and 100 to the vertical axis.

C. Add horizontal lines at 5, 15, 25, 35, and so on.

D. Rearrange the bars so all the "boy" bars are first.

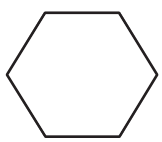
ID:177297 C

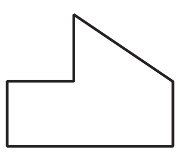
51. Mrs. Dorado is baking pies for the school bake sale. She has all of the ingredients she needs, except she has only 3 cups of brown sugar. Her recipe calls for $\frac{2}{3}$ cup of brown sugar for each pie. How many pies can she make?

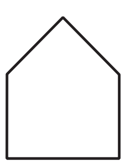
A. 2
B. 3
C. 4
D. 5

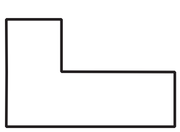
ID:177320 CL0313-hexipet. D

52. A hexipet is defined as a hexagon that has five internal 90-degree angles. Which shape is a hexipet?

A. 

B. 

C. 

D. 

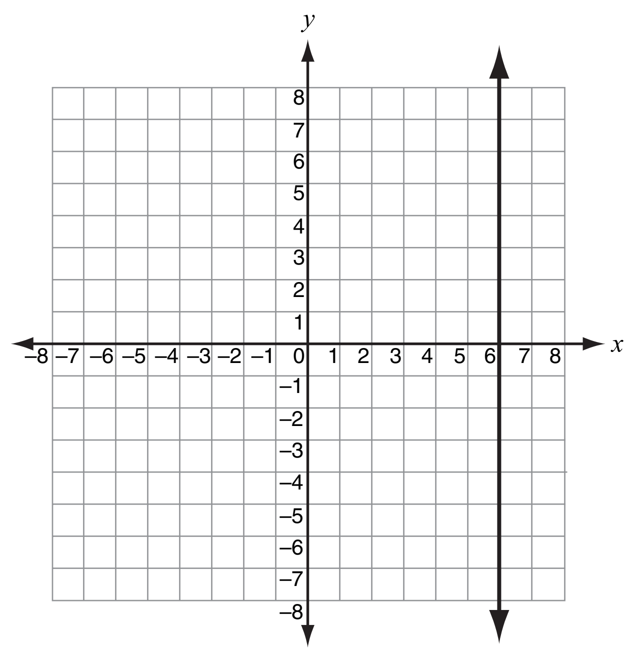
ID:177298 B

53. At 2:30 P.M., Ahmad's shadow was 2 feet long. The school, which has a flat roof, cast a 16-foot shadow at the same time. If Ahmad is $5\frac{1}{2}$ feet tall, about how tall is the school?

A. 88 feet
B. 44 feet
C. 32 feet
D. 6 feet

ID:177339 RD10320-X=6.eps C

54. The line shown below passes through the points (6, 4) and (6, 2).



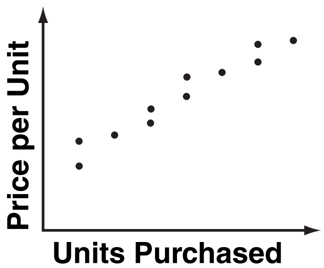
What is the equation of the line?

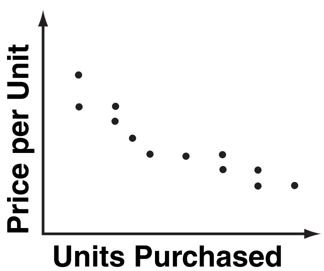
A. $y = \frac{1}{3}x + 6$
B. $y = \frac{1}{2}x + 1$
C. $x = 6$
D. $y = 6$

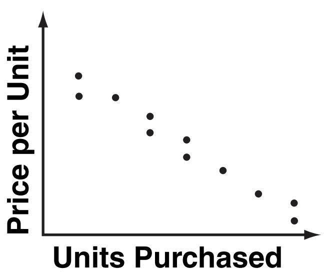
ID:178083 KD10342-scatter D

55. For which scatter plot is the relationship between units purchased and the price per unit decreasing and closest to being linear?

A. 

B. 

C. 

D. 

ID:177346 C

56. According to one source, converting a car to diesel fuel could increase its gas mileage by 40%. If a car currently gets *m* miles per gallon, which expression represents the **potential increase** in miles per gallon for this car after converting it to diesel fuel?

A. $1.40m$

B. $m + 1.40$

C. $0.40m$

D. $m + 0.40$

ID:177323 C

57. Jennifer must heat a liquid to 95° Celsius for a science experiment. Which is the best estimate of that temperature in degrees Fahrenheit?

A. 160°F

B. 180°F

C. 200°F

D. 222°F

ID:177182 B

58. In which list are the numbers in order from least to greatest?

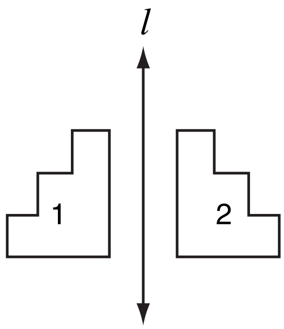
A. $2^3, \sqrt{69}, 7.9$

B. $7.9, 2^3, \sqrt{69}$

C. $\sqrt{69}, 7.9, 2^3$

D. $2^3, 7.9, \sqrt{69}$

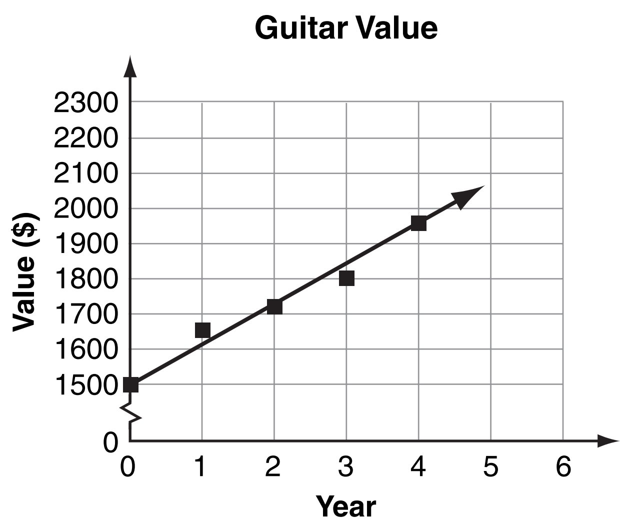
59. Figure 1 is reflected through line *l* as shown below to create figure 2.



Which statement about the figures is true?

A. Figure 1 and figure 2 are neither similar nor congruent.
B. Figure 1 and figure 2 are similar but not congruent.
C. Figure 1 and figure 2 are congruent but not similar.
D. Figure 1 and figure 2 are both congruent and similar.

60. The graph below shows the value of a certain model of guitar over time. The line of best fit has been drawn.



Based on the line of best fit, which is the best prediction of the value of the guitar in year 6?

A. $2100
B. $2175
C. $2250
D. $2325

ID:177308 D

61. Triangle PQR has vertices in the coordinate plane as given below.

$P\ (3,\ 1)$ $Q\ (9,\ 1)$ $R\ (6,\ 10)$

Which side of the triangle is the longest?

A. $\overline{PQ}$

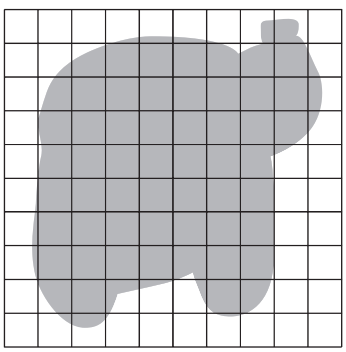
B. $\overline{QR}$

C. $\overline{PR}$

D. Triangle PQR is isosceles, with no single longest side.

ID:177330 CL0322-little_b A

Use the map of Little Bear Lake and the scale shown below to answer question 62.



☐ = $\frac{1}{4}$ square mile

62. Which is the best estimate of the area of the lake?

A. 14 square miles

B. 16 square miles

C. 56 square miles

D. 64 square miles

ID:178077 C

63. Karen made the chart below to show the number of cars at a stoplight at 10-minute intervals.

Time	Number of cars
8:00	4
8:10	18
8:20	26
8:30	10
8:40	8
8:50	3
9:00	8

She is preparing a report on the traffic flow at this stoplight. Which type of display would be the most appropriate for her to use?

A. a box-and-whisker plot

B. a circle graph

C. a bar graph

D. a stem-and-leaf graph

ID:177336 C

64. In which table is the relationship between x and y **not** linear?

A.

x	0	1	2
y	–1	0	1

B.

x	0	1	2
y	0	0	0

C.

x	0	1	2
y	1	–1	1

D.

x	0	1	2
y	1	0	–1

Questions 65 through 67 are short-answer questions. For each short-answer question, copy the problem into the Work Space in your Student Response Booklet and find the answer. Show all of your work. Write your answer in the boxes in the top row of the Answer Grid provided in your Student Response Booklet. For each number you write, fill in the matching bubble below it.

ID:177332

65. Solve for a:

$$3a - 5 = 10$$

ID:177315

66. Compute:

$$0.1 \times (2.43 + 64.2)$$

ID:177310

67. Compute:

$$(-2)^2 \times (-4 + 3)$$

Write your answer to question 68 in the space provided for it in your Student Response Booklet. Show all of your work.

ID:178090

68. Scientists have discovered that the length of a person's tibia (t) provides a good estimate of his or her height (h). For an adult woman, with measurements given in centimeters, the relationship between h and t is given by the model $h = 3t + 62$.

    a. The length of a woman's tibia is 32 cm. Use the model to estimate her height.

    b. A woman is 176 cm tall. Based on the model, how long is her tibia? Show or explain how you found your answer.

    c. One woman's tibia is 2 cm longer than another woman's tibia. Based on the model, how much taller would the woman with the longer tibia be? Show or explain how you found your answer.

Please STOP. STOP